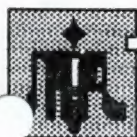
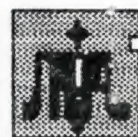


COMPUTER ART BY DICK SKOVER



MILATARI NEWSLETTER



VOL 4 NBR 9

PRICE \$1.50

AUGUST 1985



SECOND ANNUAL MILATARI PICNIC

Saturday, August 17th

GAMES - CONTESTS - PRIZES

Soda and Grills provided

The Fun begins at 2 PM - ?

Armbruster School





THE FUZZY NOLAN REVIEW

BY GARY NOLAN

CHECK THAT GUYS PIPE, HIS TOBACCO DOESN'T SMELL RIGHT

(OR, KNIGHTS IN RUSTY ARMOR NEED OILING
ONCE IN A WHILE)

Every now and then in my columns I've mentioned the self styled saviour of the home video market, Nolan Bushnell. Ever since he sold Atari to Warner Comm. and took up company with a pizza making mouse he's been telling us how he's going to release the next great home entertainment product. First it was catsup covered cardboard and stiff moving puppets (those things were NOT robots) and lots of everybody else's video games to keep your mind off the taste of the food. Then it was over priced, limited function pseudo robots that where on then off then on the market. And now he unleashes his latest boon to mankind, Imitation Pets (Petsters), brought to you by Axlon a Bushnell company that couldn't make it building memory boards for Atari and Apple. Anyway, Petsters come in two varieties a Dogster and a Catster and are about 15" long and around 7" high that run on five D-cell batteries and cost around \$100. Just think you'll save a fortune on Alpo. Look for them soon in a store near you. What prompted this latest Bushnell update was an article in the June ANALOG by Art Leyenberger in which he interviewed Nolan and got his views on "home" computers and the new Atari offerings.

Nolan doesn't feel that the Mac or GEM are really breakthrough products. And in part he's right. Both are based on ten year old ideas and technology that's been in use for almost that long (at least half). The breakthrough is really in the fact that this much power can be

put into your hands at a cost the masses can afford. A 512-Mac at \$2500 is somewhat amazing. A 520ST system at \$800 is incredible. But Nolan showed his real lack of understanding of the "home computer" market when he said of the ST that, "It's a product that makes me wonder why anyone would spend six or seven hundred dollars for a computer, when, for a few hundred more, could get a Macintosh." Calling \$1700 a few hundred is stretching it, just a tad. He also claims, rightly, that the GEM system is not as good as MacPaint. Well MacPaint is not as good as WordStar either. GEM system is not a drawing program just as MacPaint is not a word processor. In time a drawing program every bit as good as MacPaint will come along for the GEM operating system (GEM Draw???)

What all this shows is that there are still people around who are doing their best to uphold the Peter Principle. Gives you a kind of warm feeling, somewhere.

GET YOURS NOW, 'CAUSE IT MAY NOT LAST

How many of you took advantage of the deals offered by Computer Mail Order on their Atari close-out sale? 1030's for \$60, and the old 800's for \$69, game carts for \$3. How much can an Atarian stand?

Expect to see a lot of clearance sales of this type. C.O.M.B. the "Liquidator" company is in the process of selling off the SX64 for \$488 and a C64 system (monitor, drive & computer) for about the same price. Getting deals like these is great, but more importantly, is this a sign of things to come? Will more "dealers" get rid of the low end of the business such as the 800XL, C64 type machines and abandon the home market? Or will the home user abandon the home market? Sounds like the making of a good soap, eh? Well a recent study (studies are like politicians, wait and you'll always find one you agree with) has shown that home users have become more sophisticated and demanding. Once interested in games and educational uses



for these computers, the home user has found a need for things like spreadsheets and word processors. Along with this need has come a need for more RAM and faster CPU's. While some of this "need" is only perceived it is a fact that with the newer systems the programs are taking up more memory because of their complexity. I said that the need for more RAM and faster CPU's is perceived, because MOST home computer owners could get along just fine with either 64K or 128K and a 8-bit CPU running at 4/6 MEG. But don't try to tell that to a techie whose friend has 1MEG RAM, 40M hard disk, 16/32 bit computer running at 12MHZ. I hereby give you permission to any or all of this info to help you justify the purchase of a 520ST. And if it works for you let me know.

YOU CAN DO WHAT, WITH IT?

Anyone who bought a Prometheus modem really has nifty little gizmo next to their computer. With a built-in clock, and full Hayes compatibility (if wanted), and on board "help" menus, and auto selection of dial or pulse dialing and auto re-dial of busy numbers, what more could you want. Well if you add the Options Processor Board you can have full time, time keeping even with the modem unplugged with battery backed-up 2K/CMOS RAM, and the memory can be expanded to give you a RAM area of 64K to store files that can be sent automatically after you program the modem to dial a number at a predetermined time and log onto a system with the proper log-on sequence. The modem can also store files for others to download at their convenience. And in both cases your computer need not be on to aid file transfer. This board runs \$75/\$80 from most sources. That was the old board. Prometheus has released a new board that has all those functions plus some new goodies. The biggest is the memory expansion possibility of up to 512K, yes five hundred and twelve kay of RAM on-board in a modem. Other features include password protection of entry to

the files stored in the buffer. You can send the same file to several different people and all delivered and undelivered messages are time & date "stamped". It also provides a callback feature that works with the passwords. Sounds like a winner for only \$149 minus the RAM chips. So far I haven't tried the file feature on mine but everything else works just fine. Now if we could talk Dave into getting the 512K board for his.....

FUZZY tells me it's time to close this up, so BYE.....

June 11, 1985

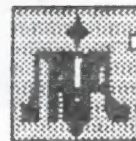
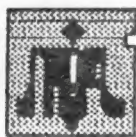
SAN LEANDRO COMPUTER CLUB SPECIAL MAILING

ATARI REVISES 520ST OFFER TO THE SLCC

In response to our dismay in the 520ST offer as was presented at our May general meeting, Jamie Copland of Atari, in a conversation with club officers, has made the following revisions to the user group purchase program:

- 1.) The TOS (Tramiel Operating System) will be upgradeable to ROM for a minimal fee yet to be determined.
- 2.) System buyers will receive Basic by the end of July free of charge as per the original plan.
- 3.) During the first six months, any new software released by Atari for the 520ST will be made available for sale through the user groups before general release.

MORE ON PAGE 10



JACK TRAMIEL INTERVIEW By Jeffrey J. Williams

Atari asked the Chicagoland Atari User Group (CL.A.U.G.) to help assist them with their exhibit at the Summer Consumer Electronics Show in Chicago. As one of the volunteers participating in the show, I asked Jack Tramiel for an interview that would appear in the newsletters of the various user groups I belong to (as well as any other groups that pick it up and choose to print it). He was most eager to talk to Atari users so he made time in a very busy day to talk with me. During the interview, I was somewhat nervous and sometimes had trouble following my notes, but Jack was very cordial and tried hard to put me at ease. We talked about CES, the ST series, the CD (compact disk) ROM device shown at CES, and Atari's relationship with user groups.

JJW: Atari announced that they would not be attending Summer CES. What prompted you to change your mind?

Tramiel: The CES show, the way we had to display it was too expensive to bring our booth, to refurbish the booth. It would have cost about \$500,000 and I felt it wasn't worth it to spend that kind of money, that I could attract the people to come to a suite in Chicago during that time and to pay much less. When we were offered the present space, we took it because it cost much less. It was strictly economics. We are here to produce computers for the best price, for the best value, not to show off.

JJW: At this show, you are displaying not only the 520ST package, but also a 260STD with 256K RAM, operating system on ROM, and a built-in 3.5" disk drive. What prompted you to include the 260STD in your planned product line?

Tramiel: We feel that there are different buyers in this marketplace...people who like to buy from K-Mart and people who like to buy from specialty stores, so we went ahead and designed two different kind of

machines. There is the total system like the 520 which will be sold to specialty stores and a system like the 260 where the mass merchandiser, if he wants to, can buy it. It was strictly to be able to produce the volume and to satisfy our customers.

JJW: The 520ST will initially have its operating system loaded from disk into RAM. Do you hope to put it on ROM at some future point?

Tramiel: The 520 will be on disk only (NOTE: Atari has since announced that the Operating System WILL be available on ROM for the 520ST. Anyone purchasing the 520ST prior to the ROM availability will receive the Operating System on ROM. -JJW). We will definitely have new machines constantly. Our aim is to continuously improve the product line. We intend to show at Comdex this year an even higher graphic machine.

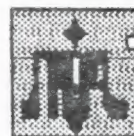
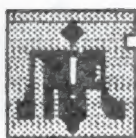
JJW: Would that be the 32-bit machine?

Tramiel: No. We intend to keep the ST as the basic machine. What we will do is we intend to have an expansion box. In that expansion box we intend to put quite a few boards. One of those boards will be a 32-bit board. Not a machine, but just a board. It will turn the ST, which you own today, into a 32-bit machine if you want to.

JJW: That is exciting. Do you have any problems with me publishing this?

Tramiel: No, go ahead...if I did I wouldn't have told you. You are the first one to be hearing this because to me, people like yourself being part of a club, you are my boss. You are the end user. You are the people that I am working to produce a product for.

JJW: Speaking collectively for other users, we appreciate it (NOTE: I subsequently asked Leonard Tramiel what processor will be mounted on the board. He said Atari is not ready to announce that information). You are showing an early prototype of CD ROM here that



seems to be generating quite a bit of interest and excitement amongst the people who have seen it. Earlier today I was walking around the CES looking at other displays and it seemed I could always hear "Atari" wherever I went. I couldn't key in on exactly what they were all saying, but that word always catches my ear. You currently have a 20-volume encyclopedia stored on a 5" compact disk and the retrieval rate is astounding. What other applications do you see for the CD ROM?

Tramiel: There are many. They can be used for a law library of any state of the United States. You could have the whole Library of Congress with every book that's been published in the last 200 years. A lot of hospital information which is all public information for doctors. Instead of having to go into a data base in Minneapolis, he can have it right on his desk. There are hundreds and hundreds of public domain applications that could be put on that ROM.

JJW: So you see it for use initially perhaps as a professional reference device as well as an institutional reference device like for schools and colleges.

Tramiel: Exactly. And I am hoping that this is one service that we can sell to remote areas in other countries where people could have a whole library, like 42nd Street and Fifth Avenue.

JJW: It really brings to the present the concept of sitting down at a computer and being able to call up a wealth of information, something I thought was still years away.

Tramiel: Exactly. That's the whole idea, we are trying to bring it forward. I am trying to take away the "black box" image, that it is "not available"...it IS available.

JJW: Tell me about peripherals for the eight-bit line.

Tramiel: We will be expanding our drive capacity. We will have a 3.5" disk drive with a half-megabyte and one megabyte in the future. We have a number of different printers, including a daisy wheel printer. The whole idea as far as the eight-bit line is concerned is to keep that product alive and expand it. As far as beginners, as far as education, as far as people who don't have much money, the eight-bit line is a fantastic product. We will continue producing it and expanding it. I'm hoping in 1986 or even the end of this year to have a 256K eight-bit machine with a built-in drive.

JJW: 5 1/4"?

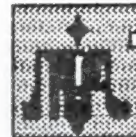
Tramiel: No, 3.5". We want to keep all those products alive and build on the software.

JJW: Perhaps you've just done it for me, but could you describe your vision of the ideal Atari personal computer. If you could just point at the table and it would be there, what would it be like?

Tramiel: It would not be on the table. My ideal Atari computer of the future is to have a television with a remote keyboard to be your computer.

JJW: I've respected your work both at Commodore and especially now with Atari. I've read the book "The Home Computer Wars" which I took to be the Jack Tramiel success story, rather than being the Commodore story or the Michael Tomczyk story. I got out of it a greater admiration and respect for you. Have you read it and what do you think about it?

Tramiel: I did read part of it because he is an associate and a friend of mine. He asked me to read it and give him comments beforehand. I did not want to give him any comments and I did not give him any comments. It's the way he interpreted the way I have operated and there are many paragraphs that are not correct, but that's the way people



JJW: Would you say he captured the flavor of Jack Tramiel?

Tramiel: I would say about 80% he did.

JJW: Could you run down the expected availability dates and prices for the current planned line of Atari products?

Tramiel: The 520ST system (512K RAM, half-megabyte 3.5" disk drive, & high resolution monochrome monitor) will be sold in July retails for \$799. The 260ST will be available in October or end of September and we'll have 2 machines...one will be \$395 without the drive and \$495 with the drive.

JJW: What about the other monitors that will be available for the ST's?

Tramiel: In case you would like to have a color monitor, for \$200 more you will be able to get the color monitor instead of the monochrome. So for the black & white, it is \$799, with the medium-res color monitor it is \$999.

JJW: And the color monitors will be available in July also?

Tramiel: Yes.

JJW: James Copeland (Vice President of Marketing) in a staff meeting I attended the day before the opening of CES, said that Atari has some plans and directions that Atari would like us, the user groups, to take with Atari distributors and mass merchants for which Atari is prepared to help support those user groups. Could you elaborate on those plans and what kind of support is planned for cooperative user groups?

Tramiel: I really am not familiar with what exactly he said. I believe very much in sex. When I mean sex I mean for people to be involved...that's what I call sex. When I have a question to ask, "Is this machine good?", "Do people like it?", I like to go directly to the users and ask them those questions. Like I am trying to offer you the 520ST first...to find out what is going on. If a retailer needs help, we don't want to

go out and hire some models, but to find a way how to give this money to your club so that you can really help each other and at the same time to try to help that retailer to sell the product. And as you know who he is selling to, you will get that many more members and we will pay you for that effort so you can use that money for improving your club. That is what I was trying to tell Jamie (James Copeland) and now he is trying to go forward on it.

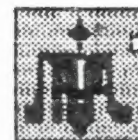
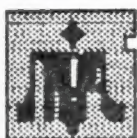
JJW: I was asking David (David Duberman, Atari's User Group Coordinator) about the same thing. He said that the plans are not really defined just yet.

Tramiel: I am giving you what the aim is. The aim is that you people in the next 2 or 3 years, with the computers coming out, can help the people that do not know computing by bringing them to the users groups.

JJW: I agree. I was in a store about a month ago where a man just bought an 800XL, 1027, 1050, AtariWriter, etc. While the sale was being written up, I introduced myself and asked if he knew anyone that could help him with any questions or problems he might have in getting his system up and running. He said no, so I gave him my name and number and told him about a couple of the user groups I belong to and invited him to attend our meetings. I don't want to take up much more of your time, in concluding this interview...do you have a message that you would like to convey to the Atari users that will be reading this interview?

Tramiel: The message I have for them is a very simple one. I appreciate all the patience they have had over the years. Now we are here, we are producing the best products and I hope they will be as proud of us as we are of them.

JJW: Thank you.



From West LA Atari User's Newsletter

TEXT WINDOW IN GRAPHICS 0

by Gerry Wick

When you type GRAPHICS 2 on your Atari, you know that the upper part of your screen is for graphics or colored text and that the bottom four lines are GRAPHICS 0 text. This technique works for all GRAPHICS modes, except GRAPHICS 0. This article and program shows you how to put a text window on the bottom of your GRAPHICS 0 screens. You might legitimately ask, "Why would I want a text window on the bottom of my GRAPHICS 0 screen?" I can think of several possibilities. If you have a menu or help screen printed on the upper portion, you can write to, scroll and clear the lower four lines while leaving the upper screen intact. Another example would be a spreadsheet where you enter data on the bottom four lines and display it in the upper screen.

The key to the text window is location 703. If it contains 0, then there is no text window. If it contains 4, there are four lines of text. In normal GRAPHICS 0, location 703 contains 24. Line 100 in the program POKES 4 into location 703 and creates a text window in GRAPHICS 0. The only drawback is that you then must use PRINT #6; (or ?#6;) to print to the upper screen. The normal PRINT statement prints to the lower four lines only.

That's all there is to it. However, this program contains another feature that makes the display more attractive. I wrote a short display list interrupt (DLI) that displays the cursor only in the bottom four lines. Program lines 110 to 160 set up the DLI to turn on the cursor at the end of screen line 19. (Remember that the first screen line is numbered 0.) Program line 170 turns off the cursor for the upper 20 screen lines. If you wonder why I wrote this little routine, delete line 170 and run the program. If you delete line 160, the DLI will not work and the cursor will be absent from the text window. This makes data entry a bit difficult.

Program lines 200 to 250 are included so that you can enter some data onto the upper screen. It TRAPS most common errors. Line 225 makes sure that your input does not run off the screen. Type "WORD GOES OUT OF RANGE" in inverse video for proper effect. Remove line 225 to see what happens when your word does run off the screen. Line 230 shows how to print to the upper screen.

Play around with different inputs to see what happens. After you have printed some entries on the upper screen, enter this one: ESC CONTROL-CLEAR. Try entering other control characters.

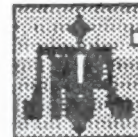
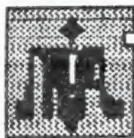
The source code for the DLI is included in listing two for those who are interested.

LISTING ONE

```
10 REM SAVE "D:WINDOW.BAS"
100 GRAPHICS 0:POKE 703,4:REM SET UP GRAPHICS 0 WINDOW
110 DL=PEEK(560)+PEEK(561)*256:REM FIND START OF DISPLAY LIST
120 POKE (DL+24),PEEK(DL+24)+128:REM ENABLE DISPLAY LIST INTERRUPT IN LINE 19 ON SCREEN
140 FOR I=1536 TO 1548:READ A:POKE I,A: NEXT I:REM POKE IN DLI
150 POKE 512,0:POKE 513,6:REM TELL COMPUTER WHERE TO FIND DLI
160 POKE 54286,192:REM ENABLE DLI
170 POKE 755,0:REM DISABLE CURSOR
200 REM USELESS INPUT
210 DIM A$(40)
215 TRAP 215:? CHR$(125);"INPUT POSITION:":? " X = ";INPUT X:? " Y = ";: INPUT Y
216 IF (X<0 OR X>39) OR (Y<0 OR Y>19) THEN 215:REM MAKE SURE CURSOR IS ON SCREEN
220 ? "INPUT SOMETHING ";:INPUT A$
225 IF X+LEN(A$)>40 THEN ? CHR$(253);"WORD GOES OUT OF RANGE";:FOR I=1 TO 600:NEXT I:GOTO 215
230 POSITION X,Y:? #6;A$:REM PRINT TO UPPER PART OF SCREEN
250 GOTO 215
10000 DATA 72,169,10,141,10,212,169, 2,141,1
10010 DATA 212,104,64
```

LISTING TWO

```
10 ;SAVE #D:DLI.SOU
20      = $0600
30      .OPT OBJ
40 ;ROUTINE TO ENABLE CURSOR ONLY FOR LAST FOUR LINES IN GRAPHICS 0
50 CHACTL = $D401
      ;TURNS CURSOR ON & OFF
60 WSYNC = $D40A
      ; SYNCHRONIZES DLI TIMING
70      PHA
      ;PUSH ACCUMULATOR ON STACK
80      LDA #10
90      STA WSYNC
      ; SET DLI TIMING
0100     LDA #2
0110     STA CHACTL
      ;TURN ON CURSOR
0120     PLA
      ;PULL ACCUMULATOR FROM STACK
0130     RTI
```

CHRIS CRAWFORD ASSEMBLY LANGUAGE COURSE

HOW COMPUTERS WORK

FOR WORLDWIDE USERS NETWORK

LECTURE ONE - 5/28/85

ANTIC PUBLISHING INC.,
COPYRIGHT 1985. REPRINTED BY PERMISSION.

Permission to reprint or excerpt is granted only if the following line appears at the top of the article:

WHY LEARN ASSEMBLY LANGUAGE?

Assembly language is the great barrier that divides the professional programmer from the amateur. It is the most powerful language available for a microcomputer.

There are four reasons for learning to program in assembly language. First, the speed of execution of assembly language is very high -- about ten times higher than BASIC on the average, perhaps a thousand times faster on certain operations.

Even ACTION, the fastest high-level language, is only about half as fast as assembly language. Second, assembly language tends to be more compact than many languages. Again, ACTION! provides a good comparison. Code produced by ACTION! is about twice as large as equivalent assembly language.

The third reason to program in assembly language is that assembly gives you access to features of the machine that simply are not available in high-level languages. Interrupts are the most notable examples.

Finally, the most important reason for learning to program in assembly language is that it will help you to understand the machine better. And that is a very good place to begin, for you cannot learn assembly language unless you know a little bit about computers.

I am now going to describe how computers work, in very rough terms. Computers operate on a hierarchy of concepts that spans a great range, rather like the hierarchy that starts with protons and electrons, moves through atoms, molecules, cells, people to civilizations.

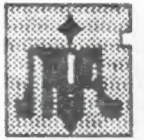
A civilization is composed of protons and electrons, but to understand how it is so composed one must know a great deal about the intermediate steps. So too is a computer composed of transistors. There are four intermediate steps between the transistor and the computer.

A transistor is an electrically operated switch. We can assemble transistors into gates that will turn circuits on or off depending on the states of other circuits. There are a variety of gates reflecting the various Boolean operations: AND, OR, NOT, NAND, NOR and EOR.

Gates can be assembled into latches, decoders, and adders. A latch is the simplest memory element: it remembers one bit of information. A decoder translates a number encoded in binary form on a few wires into a selection of one of many wires. An adder will add two one-bit values, with a carry, and generate a carry of its own.

We can next broaden each of these devices into an eight-bit device by simply slinging the devices side by side. Eight one-bit latches slung side-by-side give one byte of RAM. Eight adders make an eight-bit adder.

We can thus create a RAM module by building many bytes of RAM. We access this RAM module with three buses: a data bus, an address bus, and a control bus. The data bus carries information between the central processing unit and the RAM module.



The address bus is sixteen bits wide; a decoder in the RAM module. The address bus is sixteen bits wide; a decoder in the RAM module takes the numeric value on the address bus and decodes it to select the single byte of RAM that is indicated by the address. The control bus establishes the direction of the data flow on the data bus and the timing of data transfer.

The central processing unit (CPU) represents the highest intellectual level of the computer. It is composed of four parts: the Arithmetic and Logic Unit (ALU), the registers, the address bus controller, and the instruction decoder. The ALU is composed of adders and gate arrays that crunch numbers. The particular device to use is selected with a decoder.

The registers are simply on-board RAM. The address bus controller is a device that puts the desired RAM address onto the address bus. The real heart of the CPU is the instruction decoder, a very complex decoder that takes the program instructions out of RAM and translates them into action. It does this by feeding the instructions (which are numbers) into decoder circuits that activate the desired gateways in the CPU.

PROGRAMMING A MICROPROCESSOR

Machine code is nothing more than a bunch of numbers that mean something to the CPU. It's hard to work with pure numbers, so we use a little code that makes it easier for us to understand the codes that the computer uses. This programmer-friendlier code is called assembly language. It is a direct, one-to-one translation of machine code. Here is an example of the two side by side:

Machine Code Assembly Language

A9	05	LDA	#FINGERS
133	\$9C		STA COUNT

The code on the right may not look very readable, but you must agree, it's far more readable than the code on the left. And they both mean exactly the same thing.

Unfortunately, the computer cannot read the assembly code, only the machine code. Therefore, we need a translator program that will translate the easier-to-understand code on the right into the impossible-to-understand code on the left. This translator program is called an assembler.

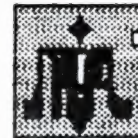
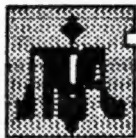
A program that goes in the reverse direction, translating machine code to assembly, is called disassembler. It may seem like a bother to go through all the hassle of using an assembler, but it is actually much easier.

Assembly language is not only more readable than machine code, but it is also assembly-time relocatable; this means you can move it around in RAM freely before you start the assembly process. A good assembler also offers a number of extra features that make it easier to keep track of your program or modify it quickly.

USING AN ASSEMBLER

There are three steps involved in writing an assembly language program: editing, assembling, and debugging. Editing is the process of typing in your assembly language statements. Assembling is the invocation of the assembler. Debugging is the process of running your program and analyzing why it doesn't work. Thus, the entire process of writing an assembly-language process can be described by a fictitious BASIC program:

```
FOR I= 1 TO 1,000,000,000... EDIT
PROGRAM ASSEMBLE PROGRAM DEBUG PROGRAM
NEXT I
```

THE 6502 MICROPROCESSOR

The first item in the 6502 that I will describe is the accumulator. This is a single one-byte register in the 6502. It is the central workbench of the microprocessor; almost everything happens in the accumulator. Your first three instructions on the 6502 are:

LDA address (Load the Accumulator with the contents of address)

This instruction loads the accumulator with the contents of the memory location specified by the value of address. The address can be specified by either an outright value, such as \$0600, or a symbolic reference, such as FISH, where the value of FISH has been previously declared by, say, an ORG statement or an equate statement.

LDA #value (Load the Accumulator with value)

This is much like the earlier statement; it loads the accumulator with a number, only the number loaded is specified immediately rather than stored in a memory location. Thus, the command LDA # 9 will put a 9 into the accumulator.

STA address (Store the Accumulator into address)

This command will store the contents of the accumulator into the RAM location whose address is specified in the command. It is just like the first command, except that the direction of data motion is reversed. The LDA command is like a read, which the STA is like a write.

You are now equipped to move data around inside the computer. These commands will allow you to read data from one area of memory and store it into another. LDA and STA are the two most common instructions used in any 6502 program.

Exercise: Write a program that will read the contents of address \$FE00 and store the result into address \$680. Your biggest problem here will be just getting your assembler to work. Therefore, I will give the answer away:

```
ROMADD ORG $FE00
RAMADD ORG $680
        ORG $600
        LDA ROMADD
        STA RAMADD
        BRK
        END
```

That's the program. Try to get it running with your assembler.

From Page 3

The original package that included a 520ST, 360K drive and monochrome monitor for \$799.99 (less rebate) is available with the above revisions.

With these changes, the San Leandro Computer Club can now endorse the user group purchase plan. Our main concern of the operating system being made available for ROM upgrade has been agreed upon. Mr. Copland said that the original plan to make upgrades of the operating system only available on disk was due to production methods that have been since corrected. Originally, the shielding was to be soldered to the main board but is now being riveted to allow access to an IC socket for the TOS ROM. The "minimal fee" has not yet been determined.

These changes amend our position previously uploaded to Compuserve.

MILWAUKEE AREA ATARI USER'S GROUP AND NEWSLETTER INFORMATION

MILATARI OFFICERS

President	David Frazer	542-7242
Vice President	Carl Mielcarek	355-3539
Secretary	Jim Mangione	764-6855
Treasurer	Steve Tupper	462-8178

MILATARI VOLUNTEERS

MILATARI West	Dennis Bogie	968-2361
Education SIG	Joe Sanders	447-1660
ATR8000 & CP/M	Joe Kasper	782-9041
Adv. Lang. SIG	Erik Hanson	252-3146
Database	Ron Friedel	354-1717
BBS Sysop	Richard Dankert	781-2338
Membership	Dave Bogie	968-2361
Newsletter	Roy Duvall	363-8231

Public Domain Libraries

Cassette	Dennis Wilson	476-7767
Disk	Bob Bobinger	466-9341
	Bill Lawrence	968-9341

Copyright Library

Cassette/Disk	Gary Haberman	228-8845
Publications	Bill Feest	321-4314

NEWSLETTER INFORMATION

This newsletter is written and printed by members of the Milwaukee Area ATARI User's Group (MILATARI). Opinions expressed in this publication are those of the individual authors and do not necessarily represent or reflect the opinions of the Milwaukee Area Atari User's Group, its officers, its members or its advertisers except where noted. Articles reprinted from bulletin boards and other newsletters are presented as an information exchange, no warranty is made to their accuracy or factuality.

Your contributions of articles are always welcome. You may submit your article on ATARI compatible cassette or diskette, on typewritten form or you can arrange with the editor to upload your file via modem. You can send Graphics eight or seven plus screens stored on disk in Micropainter or Micro Illustrator formats.

Other computer user groups may obtain copies of this newsletter on an exchange basis.

Milwaukee Area Atari User's Group

MILATARI is an independent, user education group which is not affiliated with ATARI INC. The newsletter is the official publication of MILATARI and is intended for the education of its members as well as for the dissemination of information concerning ATARI computer products.

MILATARI membership is open to individuals and families who are interested in using and programming ATARI computers. The membership includes a subscription to this newsletter and access to the club libraries. The annual membership fee is \$15 for individuals or \$20 for a family.

Vendors wishing to display and/or sell items at MILATARI meetings must make prior arrangements with the club vice president. Please call for fee schedule.

All material in this newsletter not bearing a COPYRIGHT message may be reprinted in any form, provided that MILATARI and the author are given credit.

MILATARI ADVERTISING RATES

This newsletter will accept camera ready advertising copy from anyone supplying goods and services of interest to our membership.

Current paid members of MILATARI may place classified ads in the newsletter at no charge.

Advertising Rates

Full page	\$37.50
Half page	\$20.00
Quarter page	\$12.50
Business card	\$2.00



U.S. POSTAGE PAID
BULK RATE
PERMIT NO. 201
WAUKESHA, WI 53187

MILWAUKEE AREA ATARI USERS CLUB
P.O. BOX 1191
WAUKESHA, WI 53197-1191
=====

Address Correction Requested
Forwarding Postage Guaranteed
=====

HIGH QUALITY DISKS FOR UNDER A BUCK

- Single Sided (Punched for two-sided use)
- Double Density
- with Hub Rings, Write Protects & Labels

10 Disks	\$9.95
50 Disks	\$47.50
100 Disks	\$89.95

Prices and availability are subject to change without notice.

COMPUTER SOFTWARE CENTER
9805 W. Oklahoma Ave., Milwaukee
(Two blocks East of Interstate 894)



Tues.-Fri. 12-8, Sat. 12-5

(414) 543-5123

Open 11AM-6PM on MILATARI meeting Saturdays
